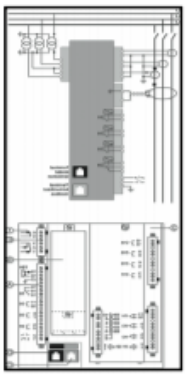
Relay Proteksi Digital SEPAM

Sepam series 40

INENP

7 tipe SEPAM series 40
- **S40, S41, S42: proteksi incoming dan feeder substation**
- **T40, T42: proteksi trafo**
- **M41: proteksi motor**

Tampak belakang SEPAM 1000+ series 40:
- **Unit utama**
- **Konektor utama**
- **Konektor input arus**
- **Terminal komunikasi modbus**
- **Terminal modul tambahan**
- **Konektor input tegangan**
- **Modul input/output digital tambahan**



Protection	ANSI code	S40	S41	S42	T40	T42	M41	G40
Phase overcurrent	50/51	4	4	4	4	4	4	4
Voltage restrained overcurrent	50V/51V							
Eearth fault, sensitive earth fault	50N/51N and 50G/51G	4	4	4	4	4	4	4
Breaker failure	50BF	1	1	1	1	1	1	1
Unbalance / negative sequence	46	2	2	2	2	2	2	2
Directional phase overcurrent	67			2		2		
Directional earth fault	67N		2	2	2	2		
Directional real overpower	32P		1	1			1	1
Directional reactive overpower	32Q						1	1
Thermal overload	49 RMS				2	2	2	2
Phase undercurrent	37						1	
Excessive starting time, locked rotor	48/51LR						1	
Starts per hour	66						1	
Positive sequence undervoltage	27D						2	
Remanent undervoltage	27R						1	
Undervoltage	27	2	2	2	2	2	2	2
Overvoltage	59	2	2	2	2	2	2	2
Neutral voltage displacement	59N	2	2	2	2	2	2	2
Negative sequence overvoltage	47	1	1	1	1	1	1	1
Overfrequency	81H	2	2	2	2	2	2	2
Underfrequency	81L	4	4	4	4	4	4	4
Recloser (4 cycles)	79	❑	❑	❑				
Thermostat / bucholz					❑	❑		
Temperature monitoring (0 to 16 RTDs, 2 set point per RTD)	38/49T				❑	❑	❑	❑
Metering								
RMS phase current I1, I2, I3 and residual current Io		■	■	■	■	■	■	■
Average current I1, I2, I3 and peak demand phase current IM1, IM2, IM3		■	■	■	■	■	■	■
Line voltage U21, U32, U13 and residual voltage Vo		■	■	■	■	■	■	■
Positive sequence voltage / rotation direction, negative sequence voltage Vi		■	■	■	■	■	■	■
Frequency		■	■	■	■	■	■	■
Real/reactive/apparent power P,Q,S and peak demand real reactive/apparent power PM, QM; power factor		■	■	■	■	■	■	■
Calculated real/reactive energy (+/-Wh; +/-Varh)		■	■	■	■	■	■	■
Real/reactive energy impulse counter (+/-Wh; +/-Varh)		❑	❑	❑	❑	❑	❑	❑
Temperature measurement					❑	❑	❑	❑
Network diagnosis								
Tripping current trip I1, trip I2, trip I3 and trip Io		■	■	■	■	■	■	■
Tripping context		■	■	■	■	■	■	■
Unbalance ratio/negative sequence current		■	■	■	■	■	■	■
Phase shift φ1, φ2, φ3		■	■	■	■	■	■	■
Disturbance recording		■	■	■	■	■	■	■
Thermal capacity used					■	■	■	■
Remaining operating time before overload tripping					■	■	■	■
Waiting time after overload tripping					■	■	■	■
Running hours counter / operating time					■	■	■	■
Starting current and time					■	■	■	■
Start inhibit time delay					■	■	■	■
Number of starts before inhibition							■	
Switchgear diagnosis								
Cumulative breaking current		■	■	■	■	■	■	■
Trip circuit supervision		❑	❑	❑	❑	❑	❑	❑
Number of operation, operating time and charging time		❑	❑	❑	❑	❑	❑	❑
CT/VT supervision		■	■	■	■	■	■	■
Self diagnosis								
Watch dog		■	■	■	■	■	■	■
Output relay test		❑	❑	❑	❑	❑	❑	❑
Modbus communication								
Measurement read out		❑	❑	❑	❑	❑	❑	❑
Remote indication and time tagging of event		❑	❑	❑	❑	❑	❑	❑
Remote control orders		❑	❑	❑	❑	❑	❑	❑
Remote setting of protections		❑	❑	❑	❑	❑	❑	❑
Transfer of disturbance recording data		❑	❑	❑	❑	❑	❑	❑
Control and monitoring								
Circuit breaker / contactor control	94/69	■	■	■	■	■	■	■
Latching/acknowledgement	86	■	■	■	■	■	■	■
Logic discrimination	68	❑	❑	❑	❑	❑	❑	❑
Switching of group setting		n	n	n	n	n	n	n
Logical equation editor		n	n	n	n	n	n	n